In the claims:

Added text is underlined and deleted text is struck through.

1. (previously presented) A communication network arrangement for handling packets within optical or combined optical/electrical packet switched networks comprising,

at least an ingress node adapted to multiplex optical packets by first polarization means and

an egress node adapted to demultiplex received optical packets by second polarization means, characterized in that the ingress node has means for transmitting packets of a first QoS class in a first state of polarization, and transmitting packets of a second QoS in a second state of polarization, such that the state of polarization of each complete packet functions as a label indicating a QoS value for that packet.

2. (previously presented) A communication network arrangement according to claim 1, characterized in that the ingress node while transmitting said packets of said second QoS in said second state of polarization, has means for simultaneously transmitting a header in said first state of polarization.

3. (previously presented) A communication network arrangement according to claim 1, characterized in that said first and said second states of polarization are interchanged at the beginning of each packet.

4. (previously presented) A communication network arrangement according to claim 1, characterized in that the second and first state of polarization are substantially orthogonal states.

5. (previously presented) A communication network arrangement according to claim 1, characterized in that the network arrangement further comprises at least one core node with

SOP alignment means for the received packet,

means for demultiplexing the received packets by means of polarisation, and

means for multiplexing packets for forwarding by means of polarisation.

6. (previously presented) A communication network arrangement according to claim 1, wherein the network arrangement further comprises,

at least one core node adapted to demultiplex the received packets by polarisation and to separate packets according to the packets state of polarisation and

said at least one core node has a first optical switching matrix and a second electronic switching matrix.

7. (previously presented) A communication network arrangement according to claim 6, characterized in that the first optical switching matrix is a wavelength router adapted to separate packets of a first QoS class, payload of a second QoS class and header information of the second QoS.

8. (previously presented) A communication network arrangement according to claim 1, wherein the network arrangement further comprises at least one core node, said core node having at least one polarisation beam splitter (PBS1) and at least one optical demultiplexer.

9. (previously presented) A communication network arrangement according to claim 1, wherein the network arrangement further comprises at least one core node having

two optical demultiplexers,

at least one first wavelength converter,

a second wavelength router, and

at least one third fixed wavelength converter

adapted to forward packets of the first and second QoS class to a first optical multiplexer.

10. (previously presented) A communication network arrangement according to claim 1, characterized in that the first QoS class represents GS-packets and the second QoS class represents BE-packets.

11. (previously presented) A communication network arrangement according to claim 1, characterized in that the ingress node

has means for separating header and payload for BE-packets by state of polarisation, and

means for separating packets by changing state of polarisation at the beginning of every new packet, using at least one polarisation beam splitter (PBS) adapted to receive a WDM-signal with a plurality of wavelengths and wherein the polarisation beam splitter (PBS) is adapted to separate header and payload by using the polarisation beam splitter per wavelength.

12. (previously presented) A communication network arrangement according to claim 1, characterized in that the network arrangement is adapted for use with more than two states of polarisation for signaling traffic.

13. (currently amended) A communication network arrangement according to claim 5, characterized in that the ingress node and ~~the~~ at least one core node comprises an optical packet switched module attached to a S-WRON node.

14. (previously presented) A communication network arrangement according to claim 1, characterized in that the network arrangement is adapted to use the change of said first and second states of polarisation for separating one or more QoS.

15. (currently amended) A communication network arrangement according to claim 6, characterized in that ~~the~~ at least one core node is adapted to switch packets electronically or optically according to which QoS class the packets are associated with.

16. (currently amended) A communication network arrangement according to claim 15, characterized in that a number of wavelengths is reserved for ~~the~~ at least one core node of the network adapted to switch packets electronically.

17. (currently amended) A communication network arrangement according to claim 15, characterized in that a number of wavelengths is reserved for ~~the~~ at least one core node of the network adapted to switch packets optically.

18. (previously presented) A method for handling packets within optical or combined optical/electrical packet switched networks comprising at least an ingress node for multiplexing of optical packets by polarization and an egress node for demultiplexing of received optical packets by polarization, comprising,

transmitting packets of a first QoS class in a first state of polarization and transmitting packets of a second QoS in a second state of polarization, such that the state of polarization of each complete packet functions as a label indicating a QoS value for that packet.

19. (previously presented) A method according to claim 18, characterized in transmitting said packets of said second QoS in said second state of polarization and simultaneously transmitting a header associated with the second QoS in said first state of polarization.

20. (previously presented) A method according to claim 18, characterized by interchanging said first and said second states of polarization at the beginning of each packet.

21. (previously presented) A method according to claim 18, characterized in that the second and first state of polarization are substantially orthogonal states.

22. (previously presented) A method according to claim 18, wherein the network further has at least one core node that executes at least one of the following steps:

a) demultiplexing received traffic by polarisation,
b) polarizing the received traffic, and
c) SOP-aligning received traffic.

23. (previously presented) A method according to claim 18, further comprising, separating packets into a first and a second class of quality, wherein packets of the first class are routed using a predefined route within a communication network, and packets of the second class are switched by a packet switch module.

24. (previously presented) A method according to claim 18, characterized in that at the ingress node packets are separated into two classes by setting switches based on header information from said packets.

25. (original) A method according to claim 20, characterized in that at the at least one core node in the optical packet switched network is executing time divisional multiplexing of received packets.

26. (currently amended) A method according to claim 22, characterized in that at least one core node in the optical packet switched network is SOP-<u>re</u>aligning received packets.

27. (currently amended) A method according to claim 22, characterized in that when a first packet of a first QoS class arrives at a switch the following steps are carried out:

a controlling device registering that the first packet is present at the input,

then delaying the first packet in a FDL in a first pre-determined period of time, ~~and~~

reserving an output where the first packet is directed to be transmitted<u>, and</u>

<u>communicating the first packet exiting a FDL to an reserved vacant output.</u>

28. (original) A method according to claim 27, characterized in defining the first predefined period of time to be longer than a second period of time, defining the second period of time using a packet with a lower QoS level than the first packet where the second packet is of a maximum allowed size.

29. (previously presented) A method according to claim 21, characterized in that statistically multiplexed packets of the second QoS class is interleaved with packets of the first QoS class, and the packets of the first QoS class using a predefined wavelength path within a communication network.

30. (previously presented) A method according to claim 18, characterized in assigning the first QoS class to GS-packets and assigning the second QoS class to BE-packets.

31. (previously presented) A method according to claim 30, characterized in forwarding GS-packets optically using an optical switch and forwarding BE-packets electronically using an electronic switch.